

Transfer Agreement

**Murray State University
Bachelor of Science
Telecommunications Systems
Management and
Kentucky Community and Technical College
System Associate in Applied Science
in
Computer & Information
Technologies
Network Administration, Network Technologies and Information Security Tracks**

There is a need for a well-educated populace in Kentucky in the area of Computer & Information Technologies (CIT) that will be addressed through a transfer agreement between Murray State University (MSU) and the Kentucky Community and Technical College System (KCTCS).

The *Kentucky Postsecondary Education Improvement Act of 1997* mandates a seamless system of postsecondary education that can only be achieved by promoting ease of transfer for learners between Kentucky institutions.

In order to promote the transfer of credits between KCTCS and MSU and thereby increase educational opportunities for students, Murray State University and KCTCS *REAFFIRM* this transfer agreement between the Associate in Applied Science in CIT offered by KCTCS and the Bachelor of Science Degree in Telecommunications Systems Management (TSM) offered by MSU.

This transfer agreement allows students to transfer the Network Administration, Network Technologies, and/or Information Security tracks within the AAS program in CIT along with an additional 22 hours to become General Education certified and be accepted toward the degree requirements of the Bachelor of Science in TSM as outlined in this agreement. More particularly, the components of the KCTCS curriculum, specified above, will be accepted as a block in the telecommunications program. Students who transfer without completing the entire AAS CIT curriculum plus 22 hours to become General Education certified will have coursework accepted in accordance with the CPE General Education Transfer Policy.

KCTCS students who transfer under the provisions of this agreement will need to complete the upper division courses and one option or 9 hours of electives at MSU as specified in the agreement in order to meet the requirements for the Bachelor of Science in TSM.

KCTCS and MSU agree to monitor and support the provisions of this agreement to ensure consistency and program quality and transferability for the mutual benefit of the students enrolled at both institutions.

KCTCS and MSU agree to coordinate changes in course content or requirements for any course listed in the transfer agreement in order to ensure continued compatibility between the courses offered by the departments at each institution.

KCTCS and MSU agree to renegotiate this agreement as necessary due to changes in course content or graduation requirements at either institution.

Both institutions will observe SACS and CPE guidelines and rules and will adhere to the requirements of reporting information for the completion of CPE reports related to transfer.

In the event that MSU determines that it will no longer offer the Bachelor of Science Degree in TSM, MSU will provide one year written notice of the termination of the degree program.

Students enrolled in the program, either at a KCTCS college or MSU will be given a reasonable amount of time to complete degree requirements.

Transfer Agreement

Murray State University

Bachelor of Science Telecommunications Systems Management

And

Kentucky Community and Technical College System

Associate in Applied Science - Computer & Information Technologies

Network Administration, Network Technologies and Information Security Tracks

Part I:

Completion of the following in KCTCS:	Will articulate to Murray State University as:
<p>Associate in Applied Science in Computer & Information Technologies,</p> <ul style="list-style-type: none"> • Information Security Track, • Network Administration Track, or • Network Technologies Track <p>PLUS the following courses to complete General Education Certification for the Associate in Arts degree:</p> <ul style="list-style-type: none"> • ENG102 (3) • Communication - Oral Communications Course (3) (COM181 Preferred) • Arts and Humanities Course(3) • Social and Behavioral Sciences Course (3) • ECO201 (3) • STA220, STA291, OR STA296* (3) • Physics Lab, PHY162 or higher (Not required if student completes PHY171 for the program natural science requirement)** (1) <p>PLUS the following course to complete requirements of Murray State University's TSM program:</p> <ul style="list-style-type: none"> • ACC201 (3) <p>Requirements:</p> <ol style="list-style-type: none"> 1. PHY171 or a second-semester physics course numbered PHY152 or higher must be taken for the program natural science requirement** 2. One of the following: CIT141, CIT142, CIT143, CIT144, CIT145, CIT147, CIT148, CIT149, or CS115, must be taken for the Level I Programming Language Requirement 3. At least one course must be a Cultural Studies Course. 4. Students must complete one Arts and Humanities course from the Humanities subcategory and one from the Heritage subcategory. 5. Students must complete courses from two different disciplines to fulfill the Social and Behavioral Sciences requirement. 	<p>Completion of the University Studies requirements and the Technical Core requirements for the Bachelor of Science degree in Telecommunications System Management</p>

* Statistics preferred; however, a select higher level math class may be accepted with permission from MSU advisor.

** Physics with a lab is preferred; however, a select science class with a lab may be accepted with permission from an MSU advisor.

Transfer Agreement*Murray State University**Bachelor of Science – Telecommunications Systems Management**and**Kentucky Community and Technical College System – Associate in Arts – General Education Certification**University Studies for MSU's TSM (Total of 42 Hrs.) – KCTCS General Education Core (Total 40 Hrs.)*

Murray State University	KCTCS
<i>Oral and Written Communication (7 Hours)</i>	<i>Communication (9 Hours)</i>
ENG105 – Critical Reading, Writing, and Inquiry (4)	ENG101 – Writing I (3) and ENG102 – Writing II (3)
COM161 – Basic Public Speaking (3)	COM181 – Basic Public Speaking (3)
<i>Global Awareness, Cultural diversity, and the World's Artistic Traditions (3 Hours)</i>	<i>Humanities Courses – Humanities (3 Hours)</i>
ANY COURSE IN CATEGORY (3)	Any KCTCS Course in this Category
See pages 4 and 5 for courses that can be used to meet the Global Awareness Category	
<i>Scientific Inquiry Methodologies & Quantitative (13 Hours)</i>	<i>Quantitative Reasoning Courses and Natural Science Course with a Lab (10 Hours)</i>
MAT140 – College Algebra (4)	MAT150 – College Algebra (3) OR MAT126 – Technical Algebra & Trigonometry (3)
PHY125 – Brief Introductory Physics (4) and PHY126 – Brief Introductory Physics Lab (1) OR PHY132 – General Physics II (3) and PHY133 – General Physics II Lab (1)	PH171 – Applied Physics (4) OR Second-semester physics course numbered PHY152/PHY162
MAT135 – Probability and Statistics (4)	STA220 – Statistics (3), STA291 Statistical Methods (3), OR STA296 Statistical Methods and Motivations (3) (Statistics preferred; however, a select higher level math class may be accepted with permission from MSU Advisor)
<i>Social and Self-Awareness and Responsible Citizenship (6 Hours)</i>	<i>Social and Behavioral Sciences Courses (6 Hours)</i>
Ethics, Social Responsibility, & Civic Engagement Category (3)	Any KCTCS Course in this Category
ECO231 – Principles of Microeconomics (3)	ECO201 – Principles of Economics I (3)
See page 8 for courses that can be used to meet the Ethics Category	
<i>World's Historical Literary and Philosophical Traditions (6 Hours)</i>	<i>Art and Humanities Course - Heritage (3 Hours) Social and Behavioral Sciences Course (3 Hours)</i>
CIV201 – World Civilizations and Cultures I (3) OR CIV202 – World Civilizations and Cultures II (3)	HIS101 – World Civilizations I (3) OR (Preferred) HIS102 – World Civilizations II (3) (Preferred)
HUM 211 – Western Humanities Tradition (3)	HUM120 – Introduction to Humanities (3) (Preferred) OR Any KCTCS Course in these Categories
See pages 6, 7, and 8 for courses that can be used to meet the World's Historical Category	
<i>University Studies Electives (6 Hours)</i>	<i>CIT Required (Core) Courses (6 Hours)</i>
CSC199 – Intro to Information Technology (3)	CIT105 – Introduction to Computers (3)
CSC101 – Intro Problem Solving Using Computer (3)	CIT120 – Computational Thinking (3)
<i>Transitions Course (1 Hours)</i>	
TSM100T – Transitions (1)	Waivered for Transfer Students

(TSM100T required for Freshmen starting during the Fall Semester at MSU–waivered for Transfer Students.)

Technical Core (57 Hours)**MSU TSM Technical Courses matched to KCTCS Technical Courses.**

These courses are not articulated course to course, however, are accepted as a block of courses into the program.

TSM134 – Intro to TSM (2)	CIT111 – Computer Hardware and Software (4)
TSM135 – Intro to Network Technology (2)	CIT150 – Internet Technologies (Preferred) (3) OR
TSM232 – Network Operating Systems (3)	CIT155 – Web Page Development (3) OR
TSM233 – Network Services (3)	CIT157 – Web Site Design and Production (3)
TSM241 – Networking Fundamentals (3)	CIT180 – Security Fundamentals (3)
	CIT291 – Capstone (Area of Emphasis) (3)
CIS307 – Database Design & Implementation (3)	CIT170 – Database Design Fundamentals (3)
CSC232 – Programming in C# (3)	Level I Programming Language (3)
	<ul style="list-style-type: none"> • CIT141 – PHP I • CIT142 – C++ Programming I • CIT143 – C# Programming I • CIT144 – Python I • CIT145 – PERL I • CIT147 – Programming I: Language • CIT148 – Visual Basic I • CIT149 – Java I
19 Hours	19 Hours
Used as an Area of Emphasis Course(s)	Recommend – CIT Technical Electives: CIT160 – Introduction to Networking Concepts (4) OR CIT161 – Network Fundamentals (4) CIT217 – UNIX / Linux Administration CIT218 – UNIX / Linux Net Infrastructure CIT286 – UNIX / Linux OS Security CIT288 – Network Security
Additional Course Required (3 Hours) – This course may be taken either at KCTCS or MSU	
Murray State University	KCTCS
ACC200 – Principles of Accounting I (3) (Offered on- campus - not offered on-line at MSU)	ACC201 – Financial Accounting I (3) (Offered on-campus and offered on-line at KCTCS)
Courses taken from MSU	
CIS317 – Information Systems Analysis and Design (3)	Prereq: CSC101 or KCTCS equivalent CIT101
ENG324 – Technical Writing (3)	Prereq: ENG 105 or 150, or the equivalent
FIN330 – Principles of Finance (3)	Prereq: ACC200 or KCTCS equivalent ACC201
IOE399 – Professional Development Seminar I (1)	Prereq: None
IOE350 – Technology Management (3)	Prereq: IOE Major Only, ENG105, & MAT140
MKT360 – Principles of Marketing (3)	Prereq: Junior Standing
TSM301 – Telecommunications Electronics Theory (3)	Prereq: TSM,CSC,EMT,MET - Majors Only & PHYSICS
TSM320 – Introduction to Wireless Technology (3)	Prereq: TSM 301
TSM343 – Protocol Analysis (3)	Prereq: TSM 232 and 241 or KCTCS equivalent
TSM351 – Principles of Information Security (3)	Prereq: CSC232
TSM411 – Network Design, Operations, & Management (3)	Prereqs: CIS 317, TSM 241, TSM320 & Senior Standing
TSM443 – Telephone Technology (3)	Prereq: TSM343
TSM488 - Professional Internship (1 or 3)	Prereq: TSM 241 or KCTCS equivalent

Program Technical Electives (21 Total Hours = 12 hours from KCTCS + 09 hours from MSU)

12 of KCTCS courses listed below will meet 12 hours of TSM Electives

- **Networking Administration Track and Networking Electives**
 - CIT212, CIT213, CIT214, CIT215, CIT 216, CIT261, CIT264 (Microsoft Windows Administration Specialization)
 - Electives: CIT217, CIT218, CIT219, CIT260, CIT261, CIT262, CIT264, CIT265, CIT266
 - CIT161, CIT167, CIT209, CIT212 (Cisco Networking Associate Specialization)
 - Electives: Approved CIT Technical Courses
- **Information Security Track and Elective Courses**
 - CIT180, CIT182, CIT184, CIT217
 - Electives: CIT284, CIT 285, CIT286, CIT287, CIT 288
- **Network Technologies Courses Sequences (Level I, Level II, Level III)**
 - CIT219, CIT288, and take 1 Sequence from Network Administration Track
 - Additional Electives: CIT145, CIT 255, CIT 265, CIT286

Additional 9 hours from MSU - TSM Electives is required for the BS degree completion:

- **Network Security**
 - TSM352 – System Security +
 - TSM353 – Network Security +
 - TSM440 – Information Policy and Security Auditing +
 - TSM441 – Advanced Information Security
- **Wireless Communications**
 - TSM321 – Wireless Communication I +
 - TSM322 – Wireless Communication II +
 - TSM323 – Wireless Mobile Internet +
 - TSM421 – Mobile Satellite Communications +
- **System Administration**
 - CSC310 – Database Administration
 - CSC360 – Scripting Languages
 - TSM450 – Telecommunications Policy and Strategies +
 - TSM517 – Systems Planning +
- **Or Other 300 and 400 Level Courses (as Approved by On-line Advisor*)**
 - COM439 – Conflict and Communication +
 - COM340 – Intercultural Communication +
 - COM380 - Organizational Communication
 - COM384 - Communication Skills for Professionals
 - CSC370 – Introduction to Artificial Intelligence
 - ECO335 – Economics and Public Policy of Telecommunications Industry +
 - FIN331 – Principles of Insurance +
 - MGT358 – Entrepreneurial Business Plan Development
 - MGT443 – Management of Operations and Technology +
 - MGT550 – Human Resource Management +
 - MGT557 – International Management +
 - MGT559 – Compensation Management +
 - MKT475 – Marketing Strategies for E-Commerce +
 - TSM444 – Wide Area Networks

+ Courses offered On-line

TOTAL CURRICULUM REQUIREMENTS - 120 Hour

Part II:

Upon completion of Part I of the agreement, students seeking the Bachelor of Science degree in Telecommunications System Management must successfully complete the following courses at MSU***:

All of the following courses must be completed:

- CIS317
- ENG324
- FIN330
- IET399
- MGT350
- MKT360
- TSM301
- TSM320
- TSM343
- TSM351
- TSM411
- TSM443
- TSM488

In addition, 9 hours from the following:

Network Security

- TSM352
- TSM353
- TSM440
- TSM441

Wireless Communications

- TSM321
- TSM322
- TSM323
- TSM421

System Administration

- CSC310
- CSC360
- TSM450
- TSM517

Or other 300 and 400 level courses (as Approved by On-line Advisor)

- COM439
- COM340
- COM380
- COM384
- CSC370
- ECO335
- FIN331
- MGT358
- MGT443
- MGT550
- MGT557
- MGT559
- MKT474
- TSM444

*** KCTCS Students will only be required to take 30 hours of 300-400 level classes due to 12 KCTCS hours articulating for 12 hours of MSU TSM program technical electives

Addendum

Map From

KCTCS CIT Program Requirements/Articulation Requirements

To

KCTCS General Education Requirements

To

MSU General Education Requirements

CIT Program/Articulation Requirements	KCTCS General Education (for Associate in Arts) Requirement*	MSU General Education Requirements
ENG101 (Program Requirement)	Communications - Written Communication	Oral and Written Communication
ENG102 (Articulation Requirement)	Communications - Written Communication	
Oral Communications Course (Articulation Requirements)	Communications - Oral Communication	
Arts and Humanities - Humanities Course (Program Requirement)	Arts and Humanities – Humanities	Global Awareness, Cultural diversity, and the World’s Artistic Traditions
MAT150 OR MAT126 (Program Requirement)	Quantitative Reasoning	Scientific Inquiry Methodologies & Quantitative
PHY171 or a second-semester physics course numbered PHY152/162 or higher with lab (Program and Articulation Requirement)**	Natural Sciences	
STA220, STA291, OR STA296 (Articulation Requirement)***	Quantitative Reasoning	
Arts and Humanities – Heritage Course (Articulation Requirement)	Arts and Humanities – Heritage	Social and Self-Awareness and Responsible Citizenship
ECO201 (Articulation Requirement)	Social and Behavioral Sciences	
Social & Behavioral Sciences Course(Program Requirement)	Social and Behavioral Sciences	World’s Historical Literacy and Philosophical Traditions
Social & Behavioral Sciences Course (Articulation Requirement)	Social and Behavioral Sciences	
CIT105	General Education Electives	University Studies Electives
CIT120		

* One Arts and Humanities or Social and Behavioral Sciences course must be an approved Cultural Studies Course

** Physics preferred; however, a select science class with a lab may be accepted with permission from an MSU advisor.

*** Statistics preferred; however, a select higher level math class may be accepted with permission from an MSU advisor.

Map From
 KCTCS CIT Program Requirements/Articulation Requirements
 To
 MSU TSM Program Requirements

Additional Articulation Plan Requirement	MSU TSM Technical Course Requirement
CIT111 CIT150 (Preferred) or CIT155 or CIT157 CIT180 CIT160 OR CIT161	TSM134/135 TSM232 TSM233 TSM241
CIT170	CIS307
CIT141, CIT142, CIT143, CIT144, CIT145, CIT147, CIT148, OR CIT149	CSC235
CIT291	Program Elective – use as an Area of Emphasis Course

Program Information for KCTCS CIT and MSU TSM

For more information on the KCTCS [Computer & Information Technologies Program](#), follow the link and scroll to page 113.

For more information on the [MSU Telecommunications Systems Management Program](#), follow the link.

KCTCS Course Numbers	KCTCS Course Name
CIT 105	Introduction to Computers
CIT 111	Computer Hardware and Software
CIT 120	Computational Thinking
CIT 141	PHP I
CIT 142	C++ I
CIT143	C# I
CIT 144	Python I
CIT 145	Perl I
CIT 147	Programming I: Language
CIT 148	Visual Basic I
CIT 149	Java I
CIT 150	Internet Technologies
CIT155	Web Page Development
CIT157	Web Site Design and Production
CIT 160	Intro to Networking Concepts
CIT 161	Network Fundamentals
CIT 167	Routing & Switching Essentials
CIT 170	Database Design Fundamentals
CIT 180	Security Fundamentals
CIT 182	Perimeter Defense
CIT 184	Attacks and Exploits
CIT 209	Scaling Networks
CIT 212	Connecting Networks
CIT 213	Microsoft Client Configuration
CIT 214	Microsoft Server Configuration
CI T215	Microsoft Server Administration
CIT 216	Microsoft Server Advanced Services
CIT 217	UNIX/Linux Administration
CIT 218	UNIX/Linux Net Infrastructure
CIT 219	Internet Protocols
CIT 255	Web Server Administration
CIT 260	Network hardware Installation and Troubleshooting
CIT 261	MS Active Directory Services
CIT 262	MS Network Infrastructure
CIT 264	MS Server Administration
CIT 265	MS Application Servers
CIT 266	MS Enterprise Administration
CIT 284	Computer Forensics
CIT 285	MS Windows OS Security
CIT 286	UNIX/Linux OS Security
CIT 287	Cisco OS Security
CIT 288	Network Security
CIT 291	CIT Capstone

CS 115	Introduction to Computer Programming
ACC 201	Financial Accounting
COM 181	Basic Public Speaking
ECO 201	Principles of Microeconomics
ENG 101	Writing I
ENG 102	Writing II
HIS 104	History of Europe Through the Mid-Seventeenth Century
HIS 105	History of Europe from the Mid-Seventeenth Century to the Present
HIS 108	History of the United States Through 1865
HIS 109	History of the United States Since 1865
MAT 126	Technical Algebra and Trigonometry
MAT 150	College Algebra
PHY 152	Introductory Physics II
PHY 171	Applied Physics
STA 220	Statistics
STA 291	Statistical Methods
STA 296	Statistical Methods and Motivations

MSU Course Numbers	MSU Course Name
CSC 310	Database Administration
CSC 360	Scripting Languages
CSC 370	Introduction to Artificial Intelligence
CIS 317	Information Systems Analysis and Design
COM 340	Intercultural Communication
COM 380	Organizational Communication
COM 384	Communication Skills for Professionals
COM 439	Conflict and Communication
ECO 335	Telecommunications Economics & Public Safety
ENG 324	Technical Writing
FIN 330	Principles of Finance
FIN 331	Principles of Insurance
IET 399	Professional Development Seminar I
MGT 358	Entrepreneurial Business Plan Development
MGT 443	Management of Operations and Technology
MGT 350	Fundamentals of Management
MGT 550	Human Resource Management
MGT 557	International Management
MGT 559	Compensation Management
MKT 360	Principles of Marketing
MKT 475	Marketing Strategies for E-Commerce
TSM 301	Telecommunications Electronics Theory
TSM 320	Introduction to Wireless Technology
TSM 321	Wireless Communication I
TSM 322	Wireless Communication II
TSM 323	Wireless Mobile Internet
TSM 343	Protocol Analysis
TSM 351	Principles of Information Security
TSM 352	System Security
TSM 353	Network Security
TSM 411	Network Design, Operations, & Management
TSM 421	Mobile Satellite Communications
TSM 440	Information Policy and Security Auditing
TSM 441	Advanced Information Security
TSM 443	Telephone Technology
TSM 444	Wide Area Networks
TSM 450	Telecommunications Policy and Strategies
TSM 488	Professional Internship
TSM 517	Systems Planning